

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. -14. (Canceled)

15. (Currently Amended) An electrical contact arrangement, comprising
- a first electrically conductive contact pad,
 - a second electrically conductive contact pad, and
 - an electrically conductive connection between the first and second contact pads, the two contact pads being arranged opposite each other and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising
 - a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,
 - the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),
 - a second contacting region for contacting the second electrically conductive contact pad, and
 - a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece

of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein
- this wire bend forms the contact tip,

wherein ~~the contact arrangement comprises means by which~~ at least the first contact pad includes a barrier layer arranged underneath a surface layer such that the contact tip of the pressure contact spring is prevented from penetrating through the barrier layer ~~first contact pad~~ when it penetrates into said surface layer ~~first contact pad~~.

16. (Previously Presented) An electrical contact arrangement, comprising
 - a first electrically conductive contact pad,
 - a second electrically conductive contact pad, and
 - an electrically conductive connection between the first and second contact pads, the two contact pads being arranged opposite each other and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising
 - a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,
 - the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein

- this wire bend forms the contact tip,

wherein the contact arrangement comprises means by which the contact tip of the pressure contact spring is prevented from penetrating through the first contact pad when it penetrates into said first contact pad, and wherein the means comprise a multilayered first contact pad, a barrier layer which consists of a harder material than the material of a surface layer, the barrier layer being arranged under said surface layer.

17. (Original) The contact arrangement as claimed in claim 16, wherein

- the barrier layer has clearances which are filled with the material of the surface layer.

18. (Previously Presented) A power semiconductor module, comprising

- at least one power semiconductor chip with at least one electrode with a metallization, and

- at least one electrical contact arrangement, the electrical contact arrangement comprising

- a first electrically conductive contact pad,
- a second electrically conductive contact pad, and
- an electrically conductive connection between the first and second

contact pads, the two contact pads being arranged opposite each other, the electrode metallization being the first contact pad of the contact arrangement and a terminal led out from the module being the second contact pad of the contact arrangement, and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising

- a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,

- the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein
- this wire bend forms the contact tip.

19. (Original) The power semiconductor module as claimed in claim 18, wherein

- the power semiconductor module is filled with an electrically insulating gel in the region between the first and second contact pads.

20. (Canceled)

21. (Previously Presented) A power semiconductor module, comprising

- at least one power semiconductor chip with at least one electrode with a metallization, and
- at least one electrical contact arrangement, the electrical contact arrangement comprising
 - a first electrically conductive contact pad,
 - a second electrically conductive contact pad, and
 - an electrically conductive connection between the first and second contact pads, the two contact pads being arranged opposite each other, the electrode metallization being the first contact pad of the contact arrangement and a terminal led out from the module being the second contact pad of the contact arrangement, and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the first contact pad having a hardness of from 45 to 70 Hv, and the spring force (F) lying between 4 and 12 N, the electrical pressure contact spring comprising

- a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,

- the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein

- this wire bend forms the contact tip.

22. (Previously Presented) A power semiconductor module, comprising

- at least one power semiconductor chip with at least one electrode with a metallization, and

- at least one electrical contact arrangement, the electrical contact arrangement comprising

- a first electrically conductive contact pad,

- a second electrically conductive contact pad, and

- an electrically conductive connection between the first and second contact pads, the two contact pads being arranged opposite each other, the electrode metallization being the first contact pad of the contact arrangement and a

terminal led out from the module being the second contact pad of the contact arrangement, and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising

- a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,

- the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein

- this wire bend forms the contact tip,

wherein the contact arrangement comprises means by which the contact tip of the pressure contact spring is prevented from penetrating through the first contact pad when it penetrates into said first contact pad.

23. (Previously Presented) A power semiconductor module, comprising

- at least one power semiconductor chip with at least one electrode with a metallization, and

- at least one electrical contact arrangement, the electrical contact arrangement comprising

- a first electrically conductive contact pad,
- a second electrically conductive contact pad, and
- an electrically conductive connection between the first and second

contact pads, the two contact pads being arranged opposite each other, the electrode metallization being the first contact pad of the contact arrangement and a terminal led out from the module being the second contact pad of the contact arrangement, and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising

- a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,

- the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein
- this wire bend forms the contact tip,

wherein the contact arrangement comprises means by which the contact tip of the pressure contact spring is prevented from penetrating through the first contact pad when it penetrates into said first contact pad, and wherein the means comprise a multilayered first contact pad, a barrier layer which consists of a harder material than the material of a surface layer, the barrier layer being arranged under said surface layer.

24. (Previously Presented) A power semiconductor module, comprising

- at least one power semiconductor chip with at least one electrode with a metallization, and

- at least one electrical contact arrangement, the electrical contact arrangement comprising

- a first electrically conductive contact pad,
- a second electrically conductive contact pad, and
- an electrically conductive connection between the first and second contact pads, the two contact pads being arranged opposite each other, the electrode metallization being the first contact pad of the contact arrangement and a terminal led out from the module being the second contact pad of the contact arrangement, and the connection being an electrical pressure contact spring clamped of electrically conductive wire between the two contact pads, the electrical pressure contact spring comprising

- a first contacting region for contacting the first electrically conductive contact pad, a rounded contact tip being arranged in the first contacting region for contacting the first contact pad,

- the contact tip having an outer radius (R) which corresponds to one to three times the thickness of the wire (a),

- a second contacting region for contacting the second electrically conductive contact pad, and

- a compressing region, with at least one wire curvature, arranged between the first contacting region and the second contacting region, a straight piece of wire extending from the compressing region and finishing in the contact tip running in the direction of the spring force (F), wherein

- the wire is bent in the first contacting region, and wherein

- this wire bend forms the contact tip,

wherein the contact arrangement comprises means by which the contact tip of the pressure contact spring is prevented from penetrating through the first contact pad when it penetrates into said first contact pad, wherein the means comprise a multilayered first contact pad, a barrier layer which consists of a harder material than the material of a surface layer, the barrier layer being arranged under said surface layer, and wherein the barrier layer has clearances which are filled with the material of the surface layer.

25. (Previously Presented) The power semiconductor module as claimed in claim 21, wherein

- the wire of the pressure contact spring has a rectangular cross section with a thickness (a) and a depth (b), and
- the spring is bent in a plane perpendicular to the depth (b).

26. (Previously Presented) The power semiconductor module as claimed in claim 25, wherein the two contact pads of the electrical contact arrangement are arranged opposite each other, the contact spring being clamped between the two contact pads.

27. (Previously Presented) The power semiconductor module as claimed in claim 22, wherein

- the wire of the pressure contact spring has a rectangular cross section with a thickness (a) and a depth (b), and
- the spring is bent in a plane perpendicular to the depth (b).

28. (Previously Presented) The power semiconductor module as claimed in claim 27, wherein the two contact pads of the electrical contact arrangement are arranged opposite each other, the contact spring being clamped between the two contact pads.